

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/662,181

manufacturing a continuous glass float ribbon having a first major surface and an opposite major surface defined as a second major surface, the first major surface having tin diffused therein characteristic of forming the glass float ribbon on a molten tin bath; *H1 conc'd*  
depositing a coating over at least one of the major surfaces by positioning a chemical vapor deposition coating apparatus over the surface of the float ribbon at a point in the manufacture of the float ribbon where the temperature range is from about 590° to 715°C (1100° to 1320°F), directing a precursor gas mixture comprising titanium tetrachloride and an organic oxygen containing compound, wherein the concentration of the titanium tetrachloride is in the range from about 0.1-5.0 % by volume, through said chemical vapor deposition coating apparatus over a surface of the float ribbon and annealing the float ribbon in air to produce titanium dioxide in the crystalline phase as a photocatalytically-activated self-cleaning coating over the glass float ribbon.

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*H2*  
39. (Amended) The method of claim 38 wherein said titanium dioxide coating has a thickness of 1300Å.

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*H3*  
41. (Amended) A method comprising steps of:  
providing a glass article having at least one surface by a float manufacturing process;  
depositing a photocatalytically-activated self-cleaning coating over the surface of the article by chemical vapor deposition during the glass manufacturing process so that the coating has titanium dioxide in the crystalline phase and has a thickness of 1300Å.

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*NE*  
46. (Amended) The method of claim 42 wherein the photocatalytically-activated self-cleaning coating has a thickness of 1300Å to permit a sufficient portion of the coating to remain free of sodium ion poisoning and retain its activity.

*H4*  
47. (Amended) A method comprising the steps of:  
manufacturing a continuous glass float ribbon having a first major surface and an opposite major surface defined as a second major surface, the first major surface having tin diffused therein characteristic of forming the glass float ribbon on a molten tin bath, positioning a chemical vapor deposition coating apparatus over the surface of the float ribbon at a point in the manufacture of the float ribbon where the temperature range is from about 590° to 715°C (1100° to 1320°F);

directing titanium tetrachloride in a carrier gas stream through said chemical vapor deposition apparatus over a surface of the float ribbon and annealing the float ribbon to produce titanium dioxide in the crystalline phase as a photocatalytically-activated self-cleaning coating over the glass float ribbon whereby said coating has a photocatalytically activated self-cleaning reaction rate of  $8.1 \times 10^{-3}$  to  $9.1 \times 10^{-3} \text{ cm}^{-1} \text{ min}^{-1}$ .

*H5*  
49. (Amended) A method comprising the steps of:  
manufacturing a continuous glass float ribbon having a first major surface and an opposite major surface defined as a second major surface, the first major surface having tin diffused therein characteristic of forming the glass float ribbon on a molten tin bath;  
depositing a coating over at least one of the major surfaces by positioning a chemical vapor deposition coating apparatus over the surface of the float ribbon at a point in the

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manufacture of the float ribbon where the temperature range is from about 590° to 715°C (1100° to 1320°F), directing a precursor gas mixture comprising titanium tetrachloride and an organic oxygen containing compound, wherein the concentration of the titanium tetrachloride is in the range from about 0.1-5.0% by volume, through said chemical vapor deposition coating apparatus over a surface of the float ribbon and annealing the float ribbon to produce titanium dioxide in the crystalline phase as a photocatalytically-activated self-cleaning coating over the glass float ribbon whereby said coating has a photocatalytically activated self-cleaning reaction rate of  $8.1 \times 10^{-3}$  to  $9.1 \times 10^{-3} \text{ cm}^{-1} \text{ min}^{-1}$ .

51. (Amended) In a method for forming a glass float ribbon wherein the method includes the steps of melting glass batch materials in a furnace; delivering the molten glass onto a bath of molten tin; pulling the molten glass across the tin bath whereupon the glass is sized and controllably cooled to form a dimensionally stable glass float ribbon; removing the float ribbon from the tin bath; moving the float ribbon by conveying roller through a lehr to anneal the float ribbon; moving the float ribbon to a cutting station on conveying rollers where the ribbon is cut into glass sheets, the improvement comprising:

depositing by chemical vapor deposition a crystalline phase of a photocatalytically-activated self-cleaning titanium dioxide coating over a surface of said float ribbon as the float ribbon is formed whereby said coating has a photocatalytically-activated self-cleaning reaction rate of  $8.1 \times 10^{-3}$  to  $9.1 \times 10^{-3} \text{ cm}^{-1} \text{ min}^{-1}$ .

53. (Amended) The method of claim 52 wherein said titanium dioxide coating has a thickness of 1300Å.

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55. (Amended) A method comprising steps of:

providing a glass article having at least one surface by a float manufacturing process;  
depositing a photocatalytically-activated self-cleaning coating over the surface of the  
article by chemical vapor deposition during the glass manufacturing process so that the coating  
has titanium dioxide in the crystalline phase and has a thickness of 1300Å whereby said coating  
has a photocatalytically-activated self-cleaning reaction rate of  $8.1 \times 10^{-3}$  to  $9.1 \times 10^{-3} \text{ cm}^{-1} \text{ min}^{-1}$ .